

2007 School IPM Outcome Program Report

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Relevance

In 1991, the Texas Legislature passed a law requiring that pests in and around school buildings be managed using integrated pest management. This was one of the first laws in the U.S. requiring schools to implement integrated pest management (IPM) as part of their maintenance programs. This law requires all public schools in Texas to reduce the use of toxic pesticides and required licensing of all people who applied pesticides to school district property. The law also requires all public schools to adopt a school board-approved integrated pest management policy and to appoint and train an IPM Coordinator. Texas is one of the few states that mandate all IPM Coordinators attend a six-hour training course on the basics of IPM principles and specific state regulations.

A school IPM team, representing the Southwest Technical Resource Center for IPM in Schools and Childcare Facilities (Center) and Texas AgriLife Extension is the only state agency that conducts the required training. IPM Coordinators are taught the defining principles of IPM, proper inspection methods, pest identification, use of non-chemical control tactics, and basic pesticide science. In addition, coordinators must become familiar with Texas school IPM regulations. Under these regulations, pesticides are classified as: Green, Yellow or Red depending upon toxicity and potential hazard from exposure. This is one of the most confusing aspects of the Texas school IPM regulations – as it requires coordinators to understand several layers of pesticide classification.

Potential benefits of school IPM programs include improved indoor air quality, reduction of pesticide exposures among students and staff, and improved pest control. Another benefit of the school IPM program team is personal assistance with developing and improving the school IPM program. While the state requires that IPM Coordinators receive 6 hours of training, the law and regulations do not provide adequate assistance to IPM Coordinators needing guidance about their program and specific pest problems, the Center offers personal assistance to all school districts in Texas. There are currently 4.5 million students in 8,746 campuses and 1,033 school districts around the state.

Response

Incorporated into the state required training (Day 1) is a hands-on exercise in which coordinators are provided an empty insecticide container and asked to provide the product trade name, active ingredient, and signal word. Then they are asked to determine the category, based on Texas regulations, which the product falls into – green, yellow or red. This exercise serves as hands-on training and a quick assessment of coordinators' grasp of the training content and their ability to apply it in a practical situation. This exercise also assists coordinators in learning how to complete the needed paperwork for

documenting their pesticide use as required under the law. This training is conducted by the school IPM team in four regional locations around the state of Texas. In addition to these four trainings conducted by the team, the Program Coordinator for the Center also conducts individual trainings in various locations around the state and is a contracted instructor for the Texas Association of School Boards (TASB).

In 2003, the school IPM team introduced a second day (Day 2) to the required training to address additional topics and provide more in-depth instruction. These two-day trainings were offered in four regional locations during the calendar year. For 2007, the school IPM team utilized the expertise and knowledge of the four Urban IPM Program Specialists to instruct the class on fire ant biology and various treatment options. In addition to the fire ants, class participants also received training on spiders, advance IPM principles, and a hands-on exercise on proper pesticide applications in and around kitchens.

162 IPM Coordinators, School Maintenance Facility Directors, Pest Management Professionals were trained on the first day of IPM Coordinator training and 96 individuals were trained on the second day of training.

In addition to the scheduled IPM Coordinator trainings the Center also produced six issues of the *School Pest News*, updated the school IPM website integrating new web development software, conducted 17 school site audits and gave various school based presentations to assist in educating school staff.

Results

In an attempt to determine the programmatic impact of the School IPM Coordinator training, a retrospective post evaluation was provided at the end of the program for each day. A total of 148 participants responded to the survey on day one and 52 participants provided responded to the survey on day two. All results are below.

Day 1 results. The first section of results for day 1 asked participants for their perception of knowledge change based on the program. The results are in table 1.

Table 1. Ranked mean value¹ of participants' perception of their level of knowledge as a result of the School IPM Program.

Perceptual Knowledge Based Change	BEFORE - Mean	S.D.	AFTER - Mean	S.D.	Change ²
I understand my role as IPM Coordinator.	3.01	1.50	4.49	.72	1.49
I understand the principles of IPM practices.	2.96	1.26	4.39	.60	1.48
I understand the paperwork requirements for pesticide applications for yellow and red list products.	2.89	1.49	4.41	.71	1.52
I feel comfortable that I have the skills I need to implement an IPM program	2.95	1.50	4.34	.87	1.47

within my district.					
I understand when you must notify building occupants about pesticide applications.	3.49	1.34	4.74	.50	1.35

¹Likert scale was defined as: 1 = not at all, 2 = slightly, 3 = Somewhat, 4 = Mostly, and 5 = Completely.

²Mean change was determined by the following formula: After mean value – Before mean Value

The next set of questions asked items related to usefulness and satisfaction of the information provided for each topic. The results are as follows:

- **150 (95.3%)** said the information on Texas Laws and Regulations for School IPM was “very useful” or “highly useful.”
- **150 (96.7%)** said the information on IPM Principles and tactics was “very useful” or “highly useful.”
- **150 (96.7%)** said the information on control and treatment of cockroaches was “very useful” or “highly useful.”
- **148 (91.9%)** said the information on understanding the difference between green, yellow, and red producers was “very useful” or “highly useful.”
- **148 (95.9%)** said the information presented on understanding pesticide labels was “very useful” or “highly useful.”

It is also worth noting that **143 (98.6%)** participants were “mostly” or completely satisfied with the program.

Day 2 results. The first section of results for day 2 asked participants for their perception of knowledge change based on the program. The results are in table 2.

Table 2. Ranked mean value¹ of participants perception of their level of knowledge as a result of the School IPM Program.

Perceptual Knowledge Based Change	BEFORE - Mean	S.D.	AFTER - Mean	S.D.	Change ²
I understand the three most common types of fire ant products	2.76	1.18	4.56	.67	1.65
I can explain why it is important to have a fire ant management plan.	3.10	1.26	4.75	.52	1.53
I understand how the different types of non-chemical measures can be used in my school district.	2.86	1.43	4.49	.73	1.56
I understand the treatment options for spider control under the school IPM program.	2.64	1.31	4.50	.64	1.70
I can identify the most common locations and signs of the four most common types of pests.	2.96	1.31	4.59	.61	1.55

¹Likert scale was defined as: 1 = not at all, 2 = slightly, 3 = Somewhat, 4 = Mostly, and 5 = Completely.

²Mean change was determined by the following formula: After mean value – Before mean Value

The next set of questions asked items related to usefulness and satisfaction of the information provided for each topic. The results are as follows:

- **47 (98.1%)** said the information presented on IPM understanding non-chemical control was “very useful” or “highly useful.”
- **52 (98.1%)** said the information on spiders, scorpions and wasps was “very useful” or “highly useful.”
- **41 (97.6%)** said the information presented on pesticide applications – hands-on exercise was “very useful” or “highly useful.”
- **52 (100.%)** said the information on developing a fire ant management program was “very useful” or “highly useful.”

It is also worth noting that **47 (100%)** participants were “mostly” or completely satisfied with the program. An additional question was added to the survey this year asking participants if this was their first time to attend an IPM Coordinator training **60 (40%)** stated that this was their first time to attend a training while **48%** stated that they had attended a training prior to attending this course.

In 2007, the <http://schoolipm.tamu.edu> website received the following: **Successful requests for pages:** 404,466; **Distinct files requested:** 10,061; **Distinct hosts served:** 84,921; **Data transferred:** 15.01 gigabytes **Average data transferred per day:** 42.12 megabytes

In 2007 School Pest News was sent to average of 1,040 recipients this includes Texas IPM Coordinators, School Maintenance Directors, Pest Management Professionals, and other interested stakeholders.